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ANALYSIS OF FACTORS AFFECTING THE SUPPLY OF COMMERCIAL BANKS CREDIT TO THE AGRICULTURAL SECTOR IN NIGERIA (1986-2005)

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ABSTRACT
This paper is on the supply of commercial banks credit to the agricultural sector in Nigeria from 1986 to 2005. Time series published data collected include agricultural GDP, commercial banks agricultural credit, cash reserve ratio and commercial banks lending rate. A multiple regression analysis approach involving the use of ordinary least (OLS) estimation techniques was adopted. Repayment ability of agricultural sector has a positive and significant effect on commercial banks credit supply to agriculture while lending rate has a positive and insignificant effect on banks agricultural credit supply. Cash reserve ratio has a negative and significant effect on commercial banks agricultural credit supply. Commercial bank agricultural credit supply is inelastic with respect to all the explanatory variables. Productivity in agricultural sector should be increased to attract commercial banks credit. Cash reserve ratio should be reduced to empower commercial banks to lend to agriculture.

KEYWORDS: Commercial Banks, Agricultural Credit supply, Repayment ability, Lending Rate,

INTRODUCTION

The Nigerian agricultural economy is a sub-sector of the national economy, which is engaged in the production of food and raw materials for the export sector of the economy. To facilitate its development, policies are made by government to achieve agricultural economy development goals (Segun 1996). Banks agricultural credit policies constitute an important source of stimulating agricultural development.

The commercial bank agricultural credit supply has always fallen short of its demand despite of all the enabling environment government has put in place to bridge the gap. This has made most farmers to turn to their second best alternatives, ie, loans from money lenders for their credit needs. These money lender charge as high as between 50% and 100% interest rate on their capital which in turn affects resource use in the farm. From 1977, government designed and implemented various programs aimed at increasing banks credit supply to agriculture. These include the agricultural credit guaranteed scheme fund (ACGSF), which act as surety for every farmer that received credit from commercial banks to the tune of 75%, cooperative bank, rural banking, agricultural insurance scheme, among others. Some studies have shown that monetary base, cash reserve ratio, liquidity ratio, the price of credit significantly influenced banks credit supply (Ojo 1978, Balogun and Otu 1991; Odufalu 1994). Of these studies only Balogun and Otu's study was related to the agricultural sector. Little do people know that the factors which affect the general economy can also affect a sector of the economy. Thus the combined effect of repayment ability of farmers, lending rate and cash reserve ratio as explanatory variables in commercial banks' credit supply to agriculture is still unknown. It is on this basis that this analysis on commercial banks agricultural credit supply is undertaken to investigate the nature of interrelationship to guide policy formulation and implementation.

METHODOLOGY

Published time series data from 1986 to 2005 was used in this study. Specific data of interest include commercial banks credit to agriculture, agricultural sector income (GDP of agriculture), commercial banks lending rate and cash reserve ratio. These data were collected from Annual Report and Statement of Account of CBN (1997) and CBN Statistical Bulletins (2005).

Commercial banks agricultural credit supply model was specified to analyze the data. It might therefore be expected that the higher the repayment ability of agricultural sector represented by the GDP of agricultural sector the higher would be the supply level of credit other things being equal. Commercial banks credit supply to agriculture may increase if lending rate increased.

A multiple linear, power, semi log and exponential regression analysis approach involving the use of OLS estimation techniques was used to estimate the model. The model took the form as specified below.

$Y_t = f(X_{1t}, X_{2t}, X_{3t})$
$LnY_t = ao + a_1 lnX_{1t} + a_2 lnX_{2t} + a_3 lnX_{3t}$ ……..power function
$LnY_t = ao + a_1X_{1t} + a_2X_{2t} + a_3X_{3t}$ …..exponential function
$Y_t = ao + a_1X_{1t} + a_2X_{2t} + a_3X_{3t}$ …………….linear function
$Yt = ao + a_1 lnX_{1t} + a_2 lnX_{2t} + a_3 lnX_{3t}$ ……..semi log
Y_t = amount of commercial banks agricultural credit supply.
X_{1t} = agricultural sector repayment ability represented by agricultural GDP in millions of naira
X_{2t} = cash reserve ratio in %
X_{3t} = lending rate in %

The coefficient of a_1 and a_3 are expected to have positive signs while the coefficient of a_2 is expected to have negative signs. ao is the y intercept.

The elasticity of credit supply (ECS) from the semi log model is given by the ratio of coefficients of the variables to credit supply, that is

ECS1 = a_1/Y, ECS2 = a_2/Y, ECS3 = a_3/Y

RESULTS AND DISCUSSION

Table 1: Regression Results of the Linear, Exponential, Double and Semi Log functional forms

Models	constant	Repayment Ability(X_1)	Lending Rate(X_2)	Cash reserve Ratio(X_3)	R^2	F-ratio
Linear	-323776 (-5.116)	2.870 (5.816)	-622.173 (-0.391)	-3762.632 (-0.705)	0.876	37.634
Exponential	4.722 (9.505)	2.448E-05 (6.318)	-5.66E-03 (-0.453)	0.269 (6.460)	0.975	209.021
Double log	-52.746 (-4.833)	5.251 (5.640)	-0.370 (-1.028)	0.827 (2.517)	0.957	119.347
Semi log	-7293026 (7.268)	631318.3 (7.383)	2281.355 (0.069)	-92910.8 (-3.077)_	0.90	42.637

Note t- values are in parenthesis

Table 2: Estimated Elasticity of Commercial Banks Agricultural Credit Supply

Variables	Elasticity
Repayment ability (X_1)	0.4
Lending rate (X_2)	0.0014
Cash reserve ratio (X_3)	0.06

Source: Estimated from semi log model and published time series (1986 to 2005) data used.

The regression result was presented in table 1. The semi log model gave the best fit in terms of signs and statistical significance and is used in the discussion.

From the estimated lead equation (semi log), the coefficient of repayment ability of agricultural sector, lending rate, and cash reserve ratio carry the expected signs, showing that an increase in agricultural sector repayment ability and lending rate caused commercial banks agricultural credit supply to increase, while an increase in cash reserve ratio decreased commercial banks credit to agriculture. The result in table 2 shows a supply elasticity value of 0.4, 0.06 and 0.0014 for repayment ability, cash reserve ratio and lending rate respectively. It means that a % increase in

repayment ability and lending rate caused commercial banks agricultural credit supply to increased by 0.4% and 0.0014 % while a % increase in cash reserve ratio caused commercial agricultural credit supply to decrease by 0.06% during the study period. It indicated that credit supply is inelastic with respect to all the variables, though repayment ability is less inelastic than other variables. The result shows an R^2 of 0.90 indicating that 90% of variability in commercial banks credit supply to agriculture was explained by the explanatory variables while the remaining 10% was explained by the error term. All the variables except lending rate were statistically significant at 1% level. The F- value of 42.6 shows the overall significant of the model

CONCLUSION

The study has shown that repayment ability has a positive and significant influence while cash reserve ratio has a negative and significant influence on commercial banks credit supply to agriculture. Equally lending rate shows a positive insignificant influence on commercial banks credit supply to agriculture. Based on the above findings the study recommends that repayment ability should be increased by improving the productivity of agriculture. The cash reserve ratio should be decreased to empower commercial banks to supply credit to agriculture. Commercial banks should apply the concept of flexibility, receptivity, optimism, courage and social responsibility in lending to agricultural sector.

Recommendations

Based on the findings of this study, the study recommends that the repayment ability of agricultural sector should be increased by increasing the productivity of the sector, cash reserve ratio should be decreased to empower commercial banks to increase credit to the sector and lending rate should be increased to stimulate commercial banks to lend more to the sector.

In agriculture there are still many profitable projects. Therefore, there is need to discern and identify those projects, nurse them to bankable stages and then provide sustainable credit flow to the sector at optimal levels. Banks should understand that agricultural finance is a more complex commodity and that after sales service is a necessary accomplishment of the sales of complex commodities.

Agricultural credit being a more complex commodity requires the banker to be an expert in agriculture to be able to offer after sale services in the form of financial and technical advice (extension service). If this is done, the less profitable and highly risky agricultural sector will become highly profitable and less risky and ultimately turn to be credit worthy to banks. This requires banking management, which will strive constantly to apply the concept of flexibility, receptivity, optimism, courage and social responsibility. Although profit is a very vital requirement of a business it is not the first and central purpose because it is possible to run a business without profit in the short run but it is not possible for a business to survive without costumers. The operators of the Nigerian agricultural sector are big costumers for banks because they form about 75% of the Nigerian business enterprise system.

It is therefore erroneous for banks to regard profit as the first and central thing, thereby putting off farmers. In business, the costumer is the first and central theme. Profit is secondary because without costumers, you can not make profit, but with costumers, you can make profit in the long run. In this dispensation of competition in the banking system, the need to identify, manage and effect profitable credit supply to agriculture becomes a sine-qua-non.

For effective lending banks should analyze the agricultural economic environment, resource flows and the potentials in the sector, as well as the agricultural economic development and policy objectives of government and then take advantage to lend sustainably. Lending is a highly subjective phenomenon. Banks should thoroughly consider the quantum of agricultural lending and interest rate appropriate for the occasion. This quantum should be the optimal volume of credit and interest rate on terms and conditions that will satisfy the banking objective of the lender and the agricultural economic objective of the government. All these put together could enhance the free flow of commercial banks credit to agriculture

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